

### Office Action Summary

**Application No.**

10/506,778

**Applicant(s)**

PHADTARE ET AL.

**Examiner**

HOPE A. ROBINSON

**Art Unit**

1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 May 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14 and 15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 14 and 15 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SF/88)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: 7/28/08  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Application Status***

1. Applicant's response to the office action mailed January 11, 2008 on May 1, 2008 has been received and entered.

### ***Claim Disposition***

2. Claims 1-13 and 16-25 have been canceled. Claims 14-15 are pending and are under examination.

### ***New Specification Objection***

3. The specification is objected to because of the following informalities:  
The specification is objected to because the reference by Koyama, N. et al. 1999 cited on page 2 of the specification and in the bibliography on page 28 represents and improper citation. This reference is actually U.S. Patent No. 6,087,401.  
Correction is required.

### ***Maintained-Abstract Objection***

4. The abstract is objected to because of the following informalities:  
In line 5 of the abstract the following inconsistency appears, "rpos and Rpos-regulated genes". The phrase should be lower case or capital in both instances.  
Correction is required.

***Withdrawn-Claim Objection***

5. Previous objections to the claims are withdrawn by virtue of amendments.

***Withdrawn-Claim Rejections - 35 USC § 101***

6. Previous rejection under 35 U.S.C. 101 is withdrawn by virtue of amendments.

***Withdrawn-Claim Rejections - 35 USC § 112***

7. Previous rejections under 35 USC 112 first and second paragraphs are withdrawn by virtue of an amendment.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 14-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Koyama et al. (U.S. Patent No. 6,087,401, February 2, 1999).

Koyama et al. teach the use of DHCP and contacting said compound to bacteria. The reference reports that the compound is useful as an anticancer therapy. Although Koyama et al. does not expressly teach inhibition of an interspecies quorum-sensing inducer, this is an inherent effect which results from said contacting with DHCP which the reference teaches. Therefore, as the recitation of "to inhibit the activity of interspecies quorum-sensing inducer" is an intended use of the contacting step, the limitation of the claim is met by the reference.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Surette et al.(PNAS, 1998, vol. 96, pages 1639-1644) in view of Koyama et al. (U.S. Patent No. 6,087,401, February 2, 1999).

Surette et al. teach that in bacteria the regulation of gene expression is called quorum sensing (see abstract). The reference also teaches that bacteria produce, release and respond to hormone like molecules called inducers (i.e. AI-2 found in *E. coli*). Surette et al. does not expressly teach contacting the bacteria with DHCP, however, Koyama et al. teach the use of DHCP and contacting said compound to

bacteria. Koyama et al. disclose that the compound is useful as an anticancer therapy. Although Koyama et al. does not expressly teach inhibition of an interspecies quorum-sensing inducer, said effect would necessarily occur because this is an effect which results from contacting with DHCP which the Koyama et al. teaches. Therefore, as the recitation of "to inhibit the activity of interspecies quorum-sensing inducer" is an intended use of the contacting step, the claimed invention is obvious.

Therefore, it would have been obvious to one of ordinary skill in the art to arrive at the claimed invention as a whole, a method of inhibiting the activity of an interspecies quorum-sensing inducer to regulate quorum-sensing in a bacteria because Surette et al. teach that the regulation of a gene expression in bacteria is called quorum sensing and identify AI-2 as an inducer of quorum sensing; and Koyama et al. teach contacting DHCP to a bacteria which would produce the claimed effect of inhibiting the activity of the inducer. Thus, the claimed invention is within the skill of the art and is *prima facie* obvious.

### ***Response to Arguments***

10. Applicant state that the objection to the Abstract is traversed because "the rpoS gene is designated in lower case but the RpoS protein encoded by the rpoS gene is different. This argument is not persuasive as it does not match what is presently in the abstract as the abstract discloses "rpos and RpoS-regulated genes". As the language remains inconsistent the objection is maintained. It is suggested that the abstract is

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amended to read "...rpoS gene and genes that are regulated by the RpoS protein..." as stated in the arguments filed on page 4 of the amendment. Applicant's arguments have been considered with respect to the art rejection, note that the rejection over Surette is withdrawn, however, a new rejection has been instituted under 35 U.S.C. 102(e) and 103(a) for the reasons stated above.

### ***Conclusion***

11. No claims are presently allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hope A. Robinson whose telephone number is 571-272-0957. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nashaat Nashed, can be reached at (571) 272-0934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Hope A. Robinson/

Primary Examiner, Art Unit 1652